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AUTHOR Abraham, Nargis; Belanger, Joe
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ABSTRACT

A study investigated British Columbian English teachers' beliefs and values as factors in their willingness to implement a senior-secondary English course focusing on technical and professional communication, Technical and Professional Communications 12 (TPC12). Statistically significant differences at the .05 level of confidence were found between those willing to implement the new curriculum and those unwilling to implement it on 35 of the 88 factors analyzed, with a further 21 approaching significance. The educational backgrounds and work experiences of the two groups were relatively homogenous: only three of the 21 comparisons were significant (e.g., 'significantly more of those unwilling to implement were English majors while significantly more of those willing to implement TPC12 were English minors as undergraduates). Substantial differences were found between the two groups on beliefs about the appropriateness of the substance of TPC12: all five questions contrasting aesthetic/efferent literature elicited significant differences; there were also significant differences regarding the inclusion of scientific texts and the number of hours to devote to teaching non-literary materials. A subsample of 11 respondents was interviewed about their views on the need, clarity, complexity, and practicality of the TPC12 curriculum. Those willing to implement were more likely to feel that the course was necessary, had a clearer understanding of the intent of the course, saw implementation of this curriculum as less complex, and had a stronger belief in the practicality and quality of the course than those unwilling to implement. (Contains 43 references and 7 tables of data. An appendix provides the survey instrument.) (RS)

Technical and Professional Communications in Secondary Schools: Barriers Created by
Teachers' Beliefs and Attitudes.

By Nargis Abraham and Joe Belanger

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TECHNICAL AND PROFESSIONAL COMMUNICATIONS IN SECONDARY SCHOOLS: BARRIERS CREATED BY TEACHERS' BELIEFS AND ATTITUDES

ABSTRACT

While technical communication plays a major role in today's society, this fact is not reflected in the curricula of public schools, particularly secondary school English courses which have resisted any attempts to displace the traditional aesthetic/belletristic literature with practical/non-literary readings. The study reported below used questionnaires and telephone interviews to investigate teachers' beliefs and values as factors in their willingness to implement a senior-secondary English course focusing on technical and professional communication, Technical and Professional Communications 12 (TPC12).

Statistically significant differences at the .05 level of confidence were found between those willing to implement the new curriculum and those unwilling to implement it on 35 of the 88 factors analyzed, with a further 21 approaching significance ($p=.15$ or better; this is important because of the relatively small sample size, 16 who were willing to implement TPC12 and 25 who were unwilling). The educational backgrounds and work experiences of the two groups were relatively homogenous: only three of the 21 comparisons were significant (e.g., significantly more of those unwilling to implement were English majors while significantly more of those willing to implement TPC12 were English minors as undergraduates).

Substantial differences were found between the two groups on beliefs about the appropriateness of the substance of TPC12: all five questions contrasting aesthetic/efferent literature elicited significant differences; there were also significant differences regarding the inclusion of scientific texts (e.g., Hawking's A Brief History of Time) and the number of hours to devote to teaching non literary materials.

Thirty-seven of the questions explored respondents' knowledge of the course and available resources. Differences between those willing to implement and those unwilling to do so were statistically significant on twenty of these comparisons. Those willing to implement had read

significantly more of the curriculum guide (ten of the eleven questions revealed significant differences), knew significantly more about available resources, and had significantly more personal technical communication resources in their homes.

A subsample of eleven respondents was interviewed about their views on the need, clarity, complexity, and practicality of the TPC12 curriculum, items based on Fullan's four characteristics of change. Those willing to implement were more likely to feel that the course was necessary, had a clearer understanding of the intent of the course, saw implementation of this curriculum as less complex, and had a stronger belief in the practicality and quality of the course than those unwilling to implement.

INTRODUCTION

One of the most fiercely contested issues among English educators in British Columbia between 1995 and 1997 was whether or not the new Technical and Professional English 12 course (TPC12) deserved a place in the grade twelve English curriculum (Jones, 1995; Vance and Abraham, 1995; Lord, 1996; Archer, 1996; Shultz, 1996; Rodman, 1996). On the one hand, technical and professional communications were given a significant place in the Western Canada Protocol¹; on the other hand, the leadership of the BC Teachers of English Language Arts (BCTELA) objected that the course lacked the intellectual rigor to be offered as an alternative for the current required senior English course, English 12. The course's existence was put into further peril when the major universities in the province refused to accept it as meeting their entrance requirements. Students who took TPC12 might gain admission to a college and then transfer to a university, but they were not eligible for admission directly to the university.

The Ministry of Education mandated that the course be offered in any school where it attracted sufficient enrolment and provided a number of means of support including summer institutes and suggested unit plans for teaching technical and professional literature². However, the course did

¹ Representatives from ministries of education in Western Canada and the Yukon and North West Territories designed a list of common goals and objectives which were to inform curricula of all western provinces. One of the goals of this process was to facilitate the transfer of students from province to province (<http://www.wcp.ca/>).

² Website for TPC12 - "Enhancing Student Literacy in Secondary Schools"
<http://www.bced.gov.bc.ca/irp.cla1112/tps/toc.htm>.

not gain widespread acceptance among BC's English teaching community. The current study set out to examine the question of the relationship among teachers' beliefs and their willingness to implement the TPC12 curriculum.

The theoretical framework of this study is based on Fullan's (1991) work on curriculum implementation, particularly his emphasis on beliefs as an integral factor in implementation and his definition of the four characteristics of change – need, clarity, complexity, and quality/practicality. Fullan also focuses on the vital role of psychological change in implementing new curriculum: “real change involves changes in conceptions and role behaviour, which is why it is so difficult to achieve” (p. 38). His three dimensions of change include the alteration of beliefs, the use of new materials, and the use of new teaching approaches.

Teachers' beliefs about teaching English were examined using three broad frameworks: beliefs about pedagogy including course objectives, textbooks, and literature to be taught; beliefs about teacher preparation, particularly work experience, undergraduate course work, and professional journals read; and beliefs related to the four characteristics of change described by Fullan (1991): need, clarity, complexity, and practicality.

The first hypothesis of the study was that

Teachers who are less willing to implement the TPC12 curriculum believe that teaching English should be principally based on reading and writing aesthetic literature whereas teachers who are willing to implement the TPC12 curriculum believe that teaching English should be based on reading and writing practical literature.

This hypothesis defined “beliefs” as the debate between the use of aesthetic literature and practical literature (which has been a central debate in English as a school subject). Respondents were asked to agree or disagree with statements and lists of items that contained examples of the two sides of the issue, i.e., emphasis on literary texts and emphasis on non-literary texts.

The second hypothesis of the study was that

Teachers' willingness to implement new curriculum is significantly related to their education and experience.

REVIEW OF LITERATURE

The theoretical positions which form the basis for the current study are found in the literature on educational change, particularly on the relationships among school culture, teachers' beliefs, and educational change. Sarason (1996) identified teacher beliefs as a key factor in initiating educational change. Though the term has many connotations, the need to study 'beliefs' about education has been emphasized by several researchers (Pike, 1981; Clark and Peterson, 1986; Fullan, 1991; Pajares, 1992; Olson and Singer, 1994; Hargreaves and Evans, 1997a; Fang, 1996; Werner, 1980, 1991). In this study, our notion of "beliefs" was based on definitions provided by Rokeach (1968), Dewey (1933), Richardson (1996), Goodenough, (1963), Sigel, (1979), and Harvey, (1985). By now it has been well established that teachers' beliefs and values have a bearing on teaching behaviour (Pajares, 1992; Bandura, 1986; Werner, 1980, 1991; Cronin-Jones, 1991; Sarason, 1996; Markee, 1994; Tomlinson and Quinton, 1986).

Researchers have also found that the culture of school subjects is a factor in teachers' decisions to implement new curriculum (Fullan, 1991; Werner, 1991; Goodson, 1993; Davies, 1996). During the introduction of TPC12 in BC high schools, BC English teachers expressed concerns about the identity of English as a subject (Jones, 1995; Shultz, 1996; Rodman, 1996), likely because their own identity was dependent on the subject they taught. On the other hand, theorists such as Bancroft (1994), Larkin (1981), Holden (1981), Hollindale (1986), and Yagelski (1994) have argued that traditional English courses place too much emphasis on aesthetic writing and point to the need for English to have a functional application in students' lives.

Teachers' post-secondary education and their teaching backgrounds have turned out to be two major factors in shaping their educational philosophies, as the following studies attest:

- 1) Studies on teachers' educational background have examined a) pre-service teachers' beliefs and values (Richardson, 1996; Holt-Reynolds, 1992; Hollingsworth, 1989; Lortie, 1975) and b) educational backgrounds of English teachers (Fox, 1995; Holden, 1981; Clift, 1987).

- 2) Studies on teachers' experiences in the classroom have related teacher efficacy to beliefs (Ross, 1995; Hollingsworth, 1989; Rose and Medway, 1981).

However, only a handful of studies have surveyed beliefs about the need for a change in pedagogical values, objectives and learning outcomes (Davies, 1996; Markee, 1994). As Pajares (1992) argues, there is a need to study the relationship between beliefs and implementation, because otherwise, "little will have been accomplished if research into educational beliefs fails to provide insights into the relationship between beliefs, on the one hand, and teacher practices, teacher knowledge, and student outcomes on the other" (p. 327).

RESEARCH METHODOLOGY

To conduct this study, a questionnaire was distributed to a sample of secondary school English teachers in both rural and urban school districts of British Columbia. To further probe the questions, telephone interviews were conducted with a sub-sample of consenting respondents.

A Likert-type scale was developed from published statements made by various individuals (research, media statements, and statements made at seminars) about what an English 12 course should be. A pilot survey was developed to collect opinions from teachers who were attending Ministry-sponsored workshops and English teacher conferences. Subsequent to the pilot, a sample of convenience was selected; English department heads acquainted with one or the other of the researchers were asked (following appropriate permission from district administrators) to distribute questionnaires to members of their departments and to collect and return the completed questionnaires. Schools were chosen in both rural and urban districts.

Of 126 questionnaires distributed, 41 were completed and returned. Eleven telephone interviews were completed (interviews could not be arranged with three additional teachers from the sample who volunteered to be interviewed). The quantitative data collected through the questionnaires were analyzed using the independent samples t-test in the SPSS 8.0 for Windows software package. The qualitative data collected through open-ended questions in the questionnaire and the interview schedule were analyzed using the questions themselves as the framework.

FINDINGS

When the questionnaires and interviews were analyzed, the results fell into two broad categories: A) teachers' beliefs about pedagogy, preparation, and characteristics of change; and B) the educational backgrounds and work experiences which may have shaped the respondents' attitudes. On 12 of the 31 questions regarding beliefs, the responses of those willing to implement the TPC12 curriculum were statistically significantly different from those unwilling to implement. A further nine comparisons approached statistical significance. However, only a small number (3 of 21) of the questions relating to the respondents' backgrounds (education and work experience) elicited significantly different responses from the two groups. Interviews with the subsample of 11 teachers confirmed these findings and provided insights into the reasons for the respondents' choices.

A) TEACHER BELIEFS

All three groups of questions relating to pedagogy (i.e., objectives of the course, appropriateness of texts, and use of classroom hours) revealed statistically significant differences between those willing and unwilling to implement TPC12, but no significant differences were found in beliefs regarding teacher pre-service or in-service education. Questions regarding the characteristics of the change itself (i.e., beliefs about the need, clarity, complexity, and practicality of implementing TPC12) asked respondents for short answers rather than Likert responses. Consequently, these findings are reported in terms of trends rather than statistical comparisons.

BELIEFS ABOUT PEDAGOGY: As Tables 1 to 3 indicate, the beliefs of those willing to implement the TPC12 curriculum were significantly different from those unwilling to implement on 10 of the 25 pedagogical questions. On an additional six questions, the differences approached significance.

Beliefs about pedagogy: 1) Objectives of the course

Those willing to implement the TPC12 course held attitudes toward the current English 12 course which were significantly different from those of teachers unwilling to implement TPC12 (see Table 1). Unlike those who opposed TPC12, respondents willing to implement the new course

were not in agreement with four statements of objectives that supported the established course (questions C2a, C2b, C2c, C2d) and were in agreement with the one objective that supported the new course (Question C2e). (See Appendix A for full text of belief statements used in the Likert scale).

Table 1: Beliefs about pedagogy: Objectives of the course

<i>Question</i>	<i>Willing to implement Mean (SD)</i>	<i>Unwilling to implement Mean (SD)</i>	<i>Mean difference</i>	<i>t-ratio</i>	<i>Prob.</i>
a) Objectives of the course - Questions C1, C2, C7					
Q C1a: "...what Mathew Arnold described as the best..."	3.81 (.98)	4.35 (.78)	.54	1.90	.07
Q C2a: "... focus on pragmatic texts will deprive students..."	3.06 (1.12)	4.24 (.88)	1.18	3.75	.001
Q C2b: "...if students' interest in the literary canon is not nurtured..."	2.56 (1.21)	3.79 (.98)	1.73	3.54	.001
Q C2c: "... Students should understand aesthetic literature"	4.06 (1.18)	4.76 (.98)	.70	2.15	.04
Q C2d: "...students can transfer skills to technical reports..."	2.63 (1.59)	4.28 (.84)	1.66	3.84	.001
Q C2e: "...students should have option to study non-literary texts"	3.56 (1.09)	2.28 (1.10)	-1.28	-3.65	.001
Q C7: Reasons why students learn to write	2.00 (.00)	1.91 (.29)	.08	-1.45	.16

The most pronounced and consistent differences revealed in the study were in response to the underlying goals of teaching literature. As Table 1 shows, those teachers unwilling to implement the TPC12 course agreed or strongly agreed with statements such as "a focus on pragmatic texts will deprive students of social and critical content" (Q C2a) and that "students who are taught to read [good literary texts] can be expected to develop skills which they can transfer to texts like technical reports ..." (Q C2d), rating these statements up to 1.66 points higher on the Likert scale than those willing to teach the TPC12 course did. These statements, adapted from articles, editorials, and interviews opposed to TPC12 (Jones, 1995, Archer, 1996), illustrate the fear that teaching TPC12 will deprive students of the aesthetic experience so deeply rooted in the current English 12 course. Those in favour of the TPC12 course also supported the teaching of aesthetic literature, but (as the standard deviations show) this group had a wider range of opinions with

some teachers being in favor while others were strongly opposed to a focus on aesthetic literature. Interview data confirmed this division: those willing to implement TPC12 emphasized that students need to be able to analyze non-fiction and to present information "in a way that can be readily understood" while those unwilling to implement sided with Matthew Arnold's "the best that was thought and said."

Beliefs about pedagogy: 2) Texts for the course

Five questions asked respondents to agree or disagree (on the Likert scale) with the inclusion of literary works such as *The Outsider*, *Wuthering Heights*, and *Of Mice and Men* on the grade-twelve curriculum. Both groups were neutral to these works (means ranged from 2.17 to 2.71) and only one (*The Mayor of Casterbridge*) approached statistically significant differences (Table 2).

Table 2: Beliefs about pedagogy: Texts for the course

Question	Willing to Implement Mean (SD)	Unwilling to Implement Mean (SD)	Mean difference	t -ratio	Prob.
Appropriateness of Texts - Question C4					
Q C4c: Hardy's <i>The Mayor of Casterbridge</i>	2.57 (.51)	2.17 (.65)	-.40	-1.94	.06
Q C4f: Carl Sagan's <i>Cosmos</i>	2.42 (.67)	1.84 (.60)	-.57	-2.48	.02
Q C4j: John-Ralston Saul's <i>The Unconscious Civilization</i>	2.31 (.48)	1.85 (.67)	-.46	-2.13	.04
Q C4l: Stephen Hawking's <i>A Brief History of Time</i>	2.29 (.47)	1.83 (.65)	-.46	-2.30	.03

There were significant differences between the two groups on their responses to the non-literary texts, as Table 2 shows. The differences, however, reflect opposition by those unwilling to implement (Sagan's *Cosmos*, mean 1.84; Saul's *The Unconscious Civilization*, 1.85) rather than enthusiasm (mean 2.42 and 2.31 respectively) for the works by those willing to teach TPC12.

Differences in beliefs about appropriate texts for English 12 were also seen in statements made by the interview respondents. The following example of a statement made by a respondent unwilling to implement emphasizes beliefs in traditional English 12 norms:

I always cover poetry and poetic devices and we apply them not just to poetry but to a study of rhetoric and to do some speechmaking and look at some classic speeches ... we use famous speeches – Martin Luther King, *Henry the Fifth* ... we always do Shakespeare ... we read novels, we usually do *All Quiet on the Western Front* ... *Brave New World* ... *Joy Luck Club* ... *Catcher in the Rye* ...”

Beliefs about pedagogy: 3) Utilization of classroom hours

As Table 3 illustrates, the groups had significantly different attitudes towards spending more than five hours per term on either non-fiction prose ($p < .04$) or technical materials ($p < .001$).

Differences also approached significance for essay writing and for fiction, both of which received higher rankings from those willing to implement the new curriculum. Data collected in interviews supported data from the questionnaire. One of the interview respondents unwilling to implement suggested that TPC12 could be taught in half a term. Another interview respondent unwilling to implement referred to the lack of time in the English 12 classroom for emphasizing technical materials.

Table 3: Beliefs about pedagogy: Utilization of classroom hours

Question	Willing to Implement Mean (SD)	Unwilling to Implement Mean (SD)	Mean difference	t-ratio	Prob.
c) Use of Classroom Hours - Question C5					
Q C5a: 5+ hours for non-fiction prose	2.93 (.26)	2.68 (.48)	-.25	-2.18	.04
Q C5b: 5+ hours for poetry	2.60 (.63)	2.88 (.33)	.28	1.59	.13
Q C5c: 5+ hours for Shakespeare	2.64 (.50)	2.80 (.50)	.16	.94	.35
Q C5d: 5+ hours for technical materials	2.47 (.64)	1.56 (.65)	-.91	4.31	.001
Q C5e: 5+ hours for fiction	3.00 (.00)	2.84 (.47)	-.16	-1.69	.10
Q C5f: 5+ hours for essay writing	3.00 (.00)	2.84 (.47)	-.16	-1.71	.10

BELIEFS ABOUT TEACHER PREPARATION: The present study collected data on respondents' beliefs about two aspects of preparation to teach high school: 1) the subject matter courses aspiring teachers need to take during general education at the post-secondary level, and 2) regular reading of professional journals for on-going self-development. Based on previous

research, it was presumed that choice of post-secondary courses reflected beliefs in the value of those courses (Holt-Reynolds, 1999; Fox, 1995) and that choice of reading for self-development reflected beliefs in the philosophies promoted in the selected journals and books (Burhans, Jr., 1985).

Beliefs about teacher preparation 1) Required Courses

Respondents were asked to report which of the courses on a given list they would recommend to an individual planning to teach senior secondary English. Results revealed no significant differences between groups. Respondents from both groups reported they would recommend courses in essay writing, Canadian Literature, Shakespeare, and grammar. It should be noted that both respondents willing to implement and respondents unwilling to implement chose courses that emphasize language skills – essay writing and English grammar--, as well as courses that emphasize aesthetic literature – Canadian Literature and Shakespeare--, suggesting that both groups believe that both aesthetic literature and practical literature are essential components of English as a high school subject.

Beliefs about teacher preparation: 2) Professional Readings

In-service education and professional reading are also important indicators of teachers' values. Differences between those willing and unwilling to implement TPC12 in their beliefs about professional reading requirements for English teachers were generally not statistically significant. However, as seen in Table 4, a statistically significant difference between groups in ranking technical texts indicates that respondents unwilling to implement TPC12 are not likely to recommend reading technical texts. That respondents unwilling to implement believe in the importance of literary texts for professional reading is further supported by their choice of poetry and literary criticism in first and second place respectively. However, while respondents willing to implement TPC12 ranked reading current issues ahead of reading literary criticism, they ranked reading poetry as the first priority, and reading technical texts in fourth place, suggesting that respondents willing to implement have broader professional reading interests than respondents unwilling to implement.

BELIEFS ABOUT THE CHARACTERISTICS OF CHANGE: Fullan's four characteristics of

Table 4: Teacher Beliefs about Professional Readings and Willingness to Implement TPC12

<i>Question</i>	<i>Willing to implement Mean (SD)</i>	<i>Unwilling to implement Mean (SD)</i>	<i>Mean difference</i>	<i>t ratio</i>	<i>Sig.</i>
Q C6 Professional readings					
Q C6a: technical texts	1.73 (.88)	1.13 (.46)	-.60	-2.44	.03
Q C6b: Poetry	3.40 (1.24)	3.96 (.21)	.56	1.72	.11
Q C6c: Current issues	2.87 (.74)	2.38 (.82)	-.49	-1.88	.07
Q C6d: Literary criticism	2.73 (.88)	2.52 (.79)	-.21	-.77	.45

change – need, clarity, complexity, and practicality/quality – were used as a framework to discuss interview respondents' reasons for their willingness or unwillingness to implement the new curriculum.

Interview responses indicate that teachers' beliefs about the need for change and teachers' beliefs about the practicality and quality of the new curriculum are related to their willingness to implement the TPC12 curriculum. Predictably, those unwilling to implement TPC12 saw no need for it while those willing to implement it felt that it was an important offering. A similar division was found in the categories of clarity (knowledge about the TPC12 course) and the quality and practicality of the change.

Beliefs about "NEED": In this study, the concept of "need" was complicated by the Ministry giving the TPC12 course status equal to that of the traditional English 12 course. That is, either course satisfies the senior English requirement for high school graduation. While English 12 teachers might have conceded the need for TPC12 as an elective, they wanted no part of it as a replacement for English 12 (Jones, 1995; Vance and Abraham, 1995; Archer, 1996; Shultz, 1996; Rodman, 1996). The six interview respondents willing to implement agreed that the new course is a suitable alternative, while the five respondents unwilling to implement said that the new course was not a suitable alternative. Respondents who saw the new course as a suitable alternative made positive statements about the need for emphasis on non-literary, practical texts. One stated the need for an alternative to studying literature, while two respondents referred to the need for students to study other types of English that were provided in the new course.

Four of the six interview respondents willing to implement TPC12 had previously taught the new course as well as the established course (English 12) and were able to understand how it fit into

Grade 12 learning outcomes. As Fullan (1991) (p. 69) stated, “early rewards and some tangible success are critical incentives during implementation.” Respondents who had taught the new course were enthusiastic and stated they were willing to teach it again. On the other hand, several respondents did not see a need for the new course. Interview respondents who did not see a need for the new TPC12 course were also those who stated they were unwilling to teach it, and who were likely to emphasize the importance of literary texts in the English 12 curriculum.

In interview statements, three respondents expressed a need for both the new course and the established course. These respondents saw each course serving different needs of students. The two respondents who were willing to implement stated that all students need to have the choice of doing both courses, while the one respondent unwilling to implement suggested that the new course be an elective, with the established course continuing as the required course for high school graduation. Respondents willing to implement saw the new course as providing both the bright students and the average students with needed language and thinking skills including students “crawling through English because they hated poetry and drama so much.” A respondent unwilling to implement saw the new course opening up other opportunities by providing language skills for students who “wouldn’t probably be going on to university; they’d be looking for applied language work.”

Beliefs about "CLARITY": In the present study, "clarity" was assessed by the degree of respondents’ awareness of the intent of the new course and knowledge of the curriculum.

Table 5: Knowledge about TPC12

<i>Question</i>	<i>Willing to implement Mean (SD)</i>	<i>Unwilling to implement Mean (SD)</i>	<i>Mean difference</i>	<i>t-ratio</i>	<i>Prob.</i>
Respondents had read:					
Q D1: intent of TPC12	1.06 (.25)	1.29 (.45)	.23	2.02	.05
Q D3a: Intro to English Language Arts 11 & 12	2.71 (.47)	1.96 (.81)	-.76	3.20	.003
Q D3b: Intro to Curriculum for TPC12	2.60 (.51)	1.52 (.65)	-1.08	-5.58	.001
Q D3f: Appendix A: Prescribe Learning Outcomes	2.64 (.71)	1.65 (.71)	-.99	-4.27	.001
Q D3k: Applied Academics Web-site	1.85 (1.07)	1.00 (.00)	-.85	-2.86	.014

As Table 5 shows, those willing to implement rated themselves significantly higher on measures of knowledge of the course and its objectives than did those unwilling to implement.

It is interesting to note that although both groups had very low scores on awareness of the intent of the TPC12 course (Q D1 in Table 5), respondents unwilling to implement TPC12 had a higher mean score than the respondents willing to implement it. In this case, the intent of the new course was the main reason for English teachers' unwillingness to implement it; the intent of TPC12 was to compete with the established course that English teachers believed in and did not want to see replaced. Perhaps this was the reason that they reported they were more informed than their counterparts about the intent of the new course.

On the other hand, because some teachers objected to TPC12, this course received a good deal of publicity in professional newsletters and interviews in the press. Consequently, it is surprising that teachers reported such a lack of awareness about the intent of TPC12. Interviews confirmed that teachers were not familiar with the intent of the course. For example, one respondent stated, "a number of the learning outcomes that are in the TPC12, they're valid but ... many of those outcomes are found elsewhere in the English curriculum, even in the Career and Personal Planning curriculum". As Fullan noted, "new or revised provincial guidelines may be dismissed by some teachers on the ground that 'we are already doing that'" (1991, p. 70).

As Table 5 demonstrates, respondents unwilling to implement had read significantly less of the IRP (curriculum guide) for TPC12 than those willing to implement it. For all sections of the curriculum (except for the in-service resource), there were statistically significant differences between the two groups. Respondents unwilling to implement were less likely to have read the various sections of the TPC12 IRP than respondents willing to implement. However, neither group had read the in-service resource document (not listed in Table 5).

An aspect of false clarity discussed by Fullan (1991) occurs when the change is interpreted in an oversimplified way. "Guidelines may be used in a literal way without the realization that certain teaching strategies and underlying beliefs are essential to implementing the guidelines effectively" (p.70). In the present study, two respondents willing to implement cautioned about such "literal" interpretation, because they feared too much emphasis on technology. For

example, one respondent stated that “TPC12 [is] an English course; the computer skills and graphics are only tools.”

Other evidence of teachers' lack of knowledge came from some of the respondents unwilling to implement who stated that the new course was a replacement for a low status course, i.e., for Communications 12.

Beliefs about "COMPLEXITY": Complexity according to Fullan (1991) is “the difficulty and extent of change required” (p. 71). If the change is complex and requires changes in beliefs, it may require “a sophisticated array of activities, structures, diagnoses, teaching strategies, and philosophical understanding if effective implementation is to be achieved” (p. 71). Moreover, Lortie’s (1975) study of teachers identified complexity as one of the factors that contribute to uncertainty of effectiveness as one of the predominant feelings of teachers (Fullan, 1991, p. 121). Therefore, while the new course does not appear on the surface to be complex, the beliefs, values, and professional assumptions which underlie it are complex.

In the present study, interview respondents unwilling to implement saw a lack of rigor in the content of TPC12 as one of the disadvantages of the new course when compared with the established course. These respondents stated that “Students would be missing out on reading and writing if they only took TPC12,” and “may miss opportunities to work with the more personal aspects of language and communication.”

Concerns about the substance of new course could be explained by the inference that teachers’ beliefs are rooted in the culture of the school subject. The long-standing debate within English departments about the importance of aesthetic literature versus practical literature and literacy skills (Davies, 1996; Hollindale, 1986; Yagelski, 1994) was underlined in respondents’ open-ended statements about what they believed to be the primary objectives of English and how these objectives should be accomplished, as well as their concerns about the new curriculum.

Respondents’ criticisms that pointed to the lack of adequate substance in the content of the new course could also stem from teachers’ loyalty to their subject. This is especially so if the

established course is perceived as high status and subject departments have provided a strong sense of community among subject teachers, as is the case with English teachers. Previous studies have shown that such teachers will dismiss externally initiated change that proposes to replace the established course (Holt-Reynolds and McDiarmid, 1994; Goodson, 1993; Hollindale, 1986).

The two groups were relatively in accord in their beliefs about the importance of the substance of the current English 12 course. Even respondents willing to implement new course believed strongly in the basic values of the established English 12 course. For example, as was reported in Table 1, respondents willing to implement the TPC12 course were also very favorably disposed toward the classic rationale for teaching literature (Mathew Arnold's claim that literature should consist of "the best that has been thought and said" [QC1a]; Likert score 3.81/5). Further, these respondents tended to disagree (more than those unwilling to implement did) with the next statement (QC1b) which claimed that "informational texts that professionals read ..." were the most important contribution of English 12 to students' cognitive development. Those willing to implement also showed strong support for other aspects of the current course. For example, in response to the statement "one of the most important aspects of English 12 is that students be able to understand and appreciate imaginative, aesthetic literature that provides insights into the human condition", the mean score for respondents willing to implement was 4.06, just slightly lower than the score for those unwilling to implement. This suggests that those willing to implement TPC12 were expanding their values and beliefs about what is important about the teaching of English, a far less demanding and complex task than replacing these beliefs and values.

Beliefs about "QUALITY/PRACTICALITY": The fourth characteristic of change listed by Fullan (1991) is the quality and practicality of the change. Fullan reiterated the connection between quality/practicality and beliefs in his statement that "it is what people develop in their minds and actions that counts. People do not learn or accomplish complex changes by being told or shown what to do. Deeper meaning and solid change must be born over time" (1991, p.73).

Quality

In the present study, respondents referred to the quality and effectiveness of the new and established courses in response to open-ended questions and interview questions.

Some teachers' perceptions that the quality of TPC12 is inadequate might result from the fact that the change has been seen as externally initiated for political reasons. In the present study, some respondents referred to the political genesis of the new course. One respondent unwilling to implement said, "I seem to be thinking that it's quite the political reason why they've floated it [TPC12]." Another respondent unwilling to implement stated that the new curriculum "is focused entirely on the capitalist economic system...it provides opportunities in a very narrow scope."

On the other hand, teachers who had taught the TPC12 course--all among those willing to implement--found a source of pride in student feedback. For example, a respondent who had taught TPC12 reported that "It's very rewarding to teach the course because ... the students are ... motivated to be there." Another respondent reported that "many of them [students] found their language skills and the use of language being better enhanced with textbook materials that made more sense to them." As Lortie (1975) found, "Effectiveness of teaching is gauged by informal, general observations of students" (p. 120).

Practicality

Practicality involves such elements as resources and assistance. Statistically significant differences were found between the beliefs of those willing and unwilling to implement TPC12 about availability of certain kinds of resources and need for assistance and support (Table 6). The need for collegial support was mentioned by five of the six interview respondents who were willing to implement TPC12.

Availability of Resources

As Table 6 shows, respondents willing to implement were more likely to have books on technical professional writing, computers, and internet access available at school, and were more likely to have computers at home than those unwilling to implement although scores for both groups were very low. Statistical analysis revealed significant differences between groups on the first three

Table 6: Teacher Beliefs about Practicality and Willingness to Implement TPC12

<i>Question</i>	<i>Willing to implement Mean (SD)</i>	<i>Unwilling to implement Mean (SD)</i>	<i>Mean difference</i>	<i>t ratio</i>	<i>Prob.</i>
Q D51: Availability of resources at school					
Q D5a1: Books on technical professional writing	.69 (.48)	.32 (.48)	-.37	-2.40	.02
Q D5d1: Computers and software	.81 (.40)	.48 (.51)	-.33	-2.32	.05
Q D5e1: Internet and web access	.61 (.40)	.52 (.51)	-.29	-2.40	.05
Q D52: Availability of resources at home					
Q D5d2: Computers and software	.69 (.48)	.28 (.46)	-.41	-2.73	.009
Q D6: Need for Assistance					
Q D6cd: School Principal's assistance	2.47 (.74)	1.84 (.76)	-.62	-2.40	.02
Q D6h: In-services	2.87 (.35)	2.50 (.61)	-.37	-2.26	.03

resources at the .05 confidence level and for home computers at the .01 confidence level. For the other resources listed, the results were not statistically significant between groups, although respondents willing to implement had higher mean scores than respondents unwilling to implement on items reporting other resources at school and for books and materials on technical professional writing and technical professional literature at home.

Interview respondents also reported that because resources often have to be created afresh for a new course, teachers sometimes have to find the resources themselves. For example, “teachers need time to get into the materials” and “there’s a lot out there which has not yet been developed ... many teachers are ... putting their own style into it and figuring out the resources.”

Need for Assistance and Support

As Table 6 indicates, all respondents perceived the need for assistance from various sources, as is evident by the mean scores for both groups for the sources of assistance listed in the questionnaire. Statistically significant differences between groups were found at the .05 confidence level on need for assistance from the school principal and from in-services, while results on the need for assistance from the Ministry and from funding for resources approached significance, at confidence levels of .15 and .16 respectively. Fullan saw support from the

principal as “the most powerful potential source of help or hindrance to the teacher” (1991, p.143).

Need for Collegial Support

In the present study, while interview respondents who had taught the new course stated the need for collegial support, they also reported that they had to seek support from outside their own department, because English teachers were by and large not in favour of its implementation. Previous research suggests this finding will be a major barrier to the implementation of TPC12.

Lortie (1975) reported that the most effective source of help for teachers tends to be fellow teachers. Fullan also confirmed that “the degree of change was strongly related to the extent to which teachers interact with each other ... Within the school, collegiality among teachers, as measured by the frequency of communication, mutual support, help, etc., was a strong indicator of implementation success” (1991, p. 131).

B) TEACHERS’ EDUCATIONAL BACKGROUNDS AND WORK EXPERIENCES

The secondary hypothesis of the present study postulated that teachers’ willingness to implement new curriculum is significantly related to their education and experience. However, statistical analysis of responses in the present study did not support this hypothesis. Several factors may explain this.

The present study identified its population as English teachers. It follows that the main teaching experience of respondents would be in teaching English, and that English teachers would believe in the objectives of the established course, i.e., English 12. Further, subject teachers at the high school level often have taken several university level courses in the subject they choose to teach and may have majored in that subject at university. Thus, respondents’ experience and education across the two groups were similar.

EXPERIENCE

There were no significant differences between groups in terms of secondary teaching experience, post-secondary teaching experience, non-teaching work experience, and writing experience. For

example, 80% (20) of respondents unwilling to implement and 75% (12) of respondents willing to implement had taught English 12. All respondents had taught a variety of “other courses,” including courses in creative writing, journalism, drama, and law.

In two instances, results approached significance between groups:

- 1) Respondents willing to implement were more likely to have had experience as school administrators (department heads, mean score 5.13) than those lacking this experience (mean score 2.54)
- 2) Respondents unwilling to implement were more likely to have had experience in poetic writing (mean score = .72), than respondents willing to implement (mean score = .31).

The fact that the entire sample (both those willing and unwilling to implement) was comprised of teachers of English might have accounted for the lack of difference in the experience of the two groups.

EDUCATION

There were no significant differences between groups in terms of their post-secondary education. All but one of the respondents had taken several courses in English Literature at the undergraduate level. However, there was a considerable variety of courses taken by both groups. It is also interesting to note that results approached significance for courses taken in English literature and linguistics, which can be said to represent the major debate in English curriculum, i.e., the literature vs. language debate. Those willing to implement had taken more courses in language and linguistics by a statistically non-significant margin (Table 7).

All respondents were inclined to prefer English Literature as a subject of study at university. Previous research found that beliefs about the objectives of a school subject can be implanted in the early years of subject study, and strengthened through repeated preference for the subject (Davies, 1996; Fox, 1995; Pajares, 1992; Larkin, 1981). From the homogeneity of the sample across groups in terms of their educational backgrounds, it can be inferred that all respondents, both those willing to implement the new course and those unwilling to implement it, believe in the traditional pedagogical assumptions of high school English.

Table 7: Education, Experience and Willingness to Implement TPC12

<i>Question</i>	<i>Willing to implement Mean (SD)</i>	<i>Unwilling to implement Mean (SD)</i>	<i>Mean difference</i>	<i>t ratio</i>	<i>Sig.</i>
Experience					
Q A3: School administration (years)	5.13 (6.02)	2.54 (3.63)	-2.57	-1.71	.10
Q A5cd: Poetic/literary writing	.31 (.60)	.72 (.79)	.41	1.76	.09
Education					
Q B2a: Undergrad major in English	.44 (.51)	.80 (.41)	.36	2.39	.02
Q B2c: Undergrad major in Social Sciences	1.06 (2.17)	.12 (.33)	-.94	-2.14	.04
Q B3e: Graduate major in Arts	.00 (.00)	.16 (.37)	.16	1.70	.10

CONCLUSION

The present study investigated the influence of beliefs on a sample of teachers' decisions implementing the TPC12 curriculum in British Columbia high schools. The study hypothesized that teachers who valued traditional English literature would be opposed to teaching technical literature and would, therefore, oppose the new course. The present study did not reject this hypothesis: English teachers who believed in teaching belletristic literature were unwilling to implement TPC12, whereas English teachers who believed in the use of all texts including practical literature were willing to implement TPC12.

In the present study, the education and experience of teachers were not related significantly to their willingness to implement; however, this conclusion may have been influenced by the delimitation of the present study which focused on English teachers as its population, i.e., a homogenous population in which individuals were likely to have similar backgrounds in education and experience. This finding may also have resulted from English teachers' loyalty to the culture of their subject and its pedagogical values; as reported, beliefs of all respondents, both those willing to implement and those unwilling to implement, were in agreement with the traditional objectives of English 12.

From the results of the present study, we can conclude along with Fullan that “the ‘psychological state’ of some teachers leads them to resist change” (1991, p.141). Initiators of change need to be aware of teachers’ beliefs about pedagogy and perceptions of the need, clarity, complexity, and quality/practicality of proposed new curriculum. Moreover, planners need to include teachers in the decision-making process. Implementation of new curriculum “means a radical change in the culture of schools and the conception of teaching as a profession ... Cultural change requires strong, persistent efforts because much of the current practice is embedded in structures and routines and internalized by individuals, including teachers ... cultural change is the agenda” (Fullan, 1991, pp. 142-143).

As the present study found, the English teachers sampled believe in the pedagogical values and culture of their school subject. For curriculum implementation that requires a change in beliefs, initiators of change need to introduce changes in teachers’ cultures over a considerable period of time before they can expect results.

IMPLICATIONS FOR EDUCATIONAL PLANNERS

This study suggests that the new technical and professional communications course would have a difficult time gaining acceptance, not only because it was imposed from the top without adequate consultation with teachers, but also because the beliefs and backgrounds of these expected to teach it were incompatible with the tasks they were required to perform.

Respondents unwilling to implement the new curriculum questioned the need, clarity, complexity, and quality/practicality of the new curriculum and pedagogical objectives that did not match their own. For example, an interview respondent stated, “I don’t think everyone needs the technical but I do think everyone needs the more abstract.” Planners therefore need to assess the beliefs and perceptions of teachers, or else, false clarity may prompt teachers to assume “we are already doing that” as four interview respondents stated, or that “it is career training” which three interview respondents felt was the objective of TPC12 but not the mandate of English 12.

Moreover, Fullan found that even if authorities include some teachers in the change process, this does not ensure that all teachers will accept the change. “One of the great mistakes over the past 30 years has been the naïve assumption that involving some teachers on curriculum committees or in program development would facilitate implementation, because it would increase acceptance by other teachers ... once again there was a failure to distinguish between the change and the change process” (1991, p. 127). As Fullan emphasized, “people must be able to attach personal meaning to the experiences regardless of how meaningful they might be to others” (1991, p.31). Interview respondents in the present study who were unwilling to implement the new curriculum stated “when we (teachers in the English Department at the respondent’s school) came up with this TPC course we took a look at it and nobody wanted to do it,” and “we’re not especially keen on it at our school because we don’t like the idea of replacing English 12.” Part of the implementation problem with TPC12 was that educational planners did not gauge the potential reaction of the whole community of teachers and persuade all teachers about the advantages of the new curriculum.

This study suggests that because the introduction of TPC12 involves significant changes in teachers’ beliefs and values, acceptance of the course will require a good deal of time and effort. As Fullan emphasized, “change is a process, not an event” (1991, p.49). If teachers are expected to change their beliefs, the new beliefs need to be developed not in the middle of their careers, but further back in time, during teacher training, or even further back in their high school and university education. Clearly, teachers who do not have coursework in technical communication and practical experience in the field will have no basis on which to develop goals, teaching strategies and assessment procedures in the discipline.

An additional barrier to the implementation of TPC12 was perceived political interference. Interview respondents who were unwilling to implement claimed that the new curriculum had been initiated due to political motives. Interview respondents said TPC12 “is focused entirely on the capitalist economic system,” and is “the brainchild of somebody out there who has got the ear of the government.” While all public school curricula in Canada are political inasmuch as the Minister of the day must approve any changes to curriculum, few curriculum changes are seen to be the result of pressures by non-educators: TPC12 was viewed as the brainchild of the

government – a government pandering to business interests – rather than a course which experts in the teaching of English developed (Jones, 1995; Archer, 1996); furthermore, a major objection raised by teachers was the political decision to accept either English 12 or TPC12 as the senior English graduation requirement for the province. To do so would mean that the two courses were equivalent, but the upstart TPC12 seemed no intellectual match for the traditional English 12.

SUGGESTIONS FOR FURTHER RESEARCH

In addition to the traditional suggestion of replicating the study using a larger sample size (in this study the small sample may have accounted for a number of non-statistically-significant probabilities in the .06 to .15 range), this research raises several other questions.

1. Beliefs of the planners. The new curriculum in the present study was an externally initiated change; respondents unwilling to implement did not see the need for the change. An investigation of the beliefs and values of the planners may help teachers and other stakeholders understand reasons for developing and improving the new curriculum.
2. The role that professionals in the field might play in conceiving and promoting new curricula. Although individual members of the Canadian Association of Teachers of Technical Writing and of the Society for Technical Communication are listed in the credits of the TPC 12 curriculum, there is no evidence that either group provided expertise at the implementation stage, the stage at which secondary school teachers required help in planning credible lessons and activities.
3. The debate between teaching belletristic and practical literature in high school English. In the present study, respondents willing to implement felt that the new curriculum provided students with skills that were not available in the established course, whereas respondents unwilling to implement the new curriculum felt that the established course provided students with these essential skills. What kinds of discussions, study groups, in-service and course work would help those trained in belletristic literature to see the value of practical literature?

4. Linked to the above topic is the discussion about why universities are unwilling to accept TPC12 as an entrance pre-requisite for English. As observed in the context of the present study, one of the main deterrents to teachers' acceptance of the new curriculum is the refusal of universities in the province to accept TPC12 as an adequate pre-requisite for university entrance. A study of university professors' beliefs may help educational planners understand why TPC12 is considered an inadequate alternative to English 12.
5. Feedback from employers in business and industry about their expectations of language and communication skills in their employees. In the context of the present study, employers were supportive of TPC12 (Vance and Abraham, 1995). Investigation into the expectations of employers will help throw light on how English 12 can provide students with employable skills. Further investigation can be carried out on whether the objective of English 12 is to provide employable skills, or to provide skills that make students "global citizens" (as a respondent unwilling to implement stated).
6. Feedback from other stakeholders in the educational system – parents, students, and school administrators – about their expectations of the objectives of English 12. In the present study, respondents reported on interest in the new course shown by students and parents; differences between groups were statistically significant for students' interest in the new curriculum. Three interview respondents who had taught the new course reported that their students demonstrated enthusiasm for the new curriculum.

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APPENDIX A:**Questions C1 and C2 - Likert scale of Belief statements about English 12****C. YOUR VIEWS ON GRADE 12 ENGLISH:**

The following statements represent a range of beliefs about the philosophy and content of the English 12 curriculum for secondary schools. Please state to what extent you agree or disagree with each statement, by circling the point on the scale which most closely resembles your agreement or disagreement with each statement.

1. Please choose the statement that best reflects your beliefs: The most important contribution of the English 12 classroom to students' cognitive development is:

a	What Mathew Arnold described as "the best that has been thought and said".	Strongly Disagree	1	2	3	4	5	Strongly Agree
b	The kinds of informational texts that professionals (such as engineers, lawyers, physicians managers, administrators, and technicians) read.	Strongly Disagree	1	2	3	4	5	Strongly Agree

2. Please state if you agree or disagree with each of the following statements, by circling a number:

a	English 12 students whose reading is focused on pragmatic, informational texts will be deprived of social and critical concepts.	Strongly Disagree	1	2	3	4	5	Strongly Agree
b	English 12 students whose interest in the traditional literary canon is not nurtured will not be interested in authoring texts that have artistic sense and story line.	Strongly Disagree	1	2	3	4	5	Strongly Agree
c	One of the most important aspects of English 12 is that students be able to understand and appreciate imaginative, aesthetic literature that provides insights into the human condition.	Strongly Disagree	1	2	3	4	5	Strongly Agree
d	Because good literary texts are intellectually challenging, students who are taught to read them can be expected to develop skills which they can transfer to texts like technical reports and user manuals.	Strongly Disagree	1	2	3	4	5	Strongly Agree
e	In English 12, students should have the option of studying non-literary texts such as legal documents, medical papers, socio-economic theses, technical reports, and user manuals, in place of a broad approach to aesthetic literature.	Strongly Disagree	1	2	3	4	5	Strongly Agree



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